

DERWENT-ACC-NO: 1992-080812

DERWENT-WEEK: 199211

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TITLE: Systolic circuit for simulation of Lotka-Volterra
systems - has N similar internal product stage processors
in one-dimensional structure connected via pipeline to
bus

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PATENT-ASSIGNEE: UNIV DRESDEN TECH[UYDR]

PRIORITY-DATA: 1990DD-0341121 (May 30, 1990)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DD <u>294808</u> A	October 10, 1991	N/A	007	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DD 294808A	N/A	1990DD-0341121	May 30, 1990

INT-CL (IPC): G06F007/38

ABSTRACTED-PUB-NO: DD 294808A

BASIC-ABSTRACT:

The circuit has a single dimensional structure consisting of N identical internal product stage processors (IPSP) and a special processor (SP). The expanded outputs of each internal product stage processor (IPSP) are connected in cascade, via a pipeline (ST1-ST0), a second pipeline (X1-X0) and a Bus (Z0), to the special processor (SP).

The internal product stage processors (IPSP) comprise a multiplier, a multiplexer and an adder circuit, with several memory registers for storing input and output data. The special processor (SP) in the systolic circuit carries out a Lotka-Volterra function.

USE/ADVANTAGE - For solving differential equations for simulation of electrical, ecological, or neuronal networks. Flexible, cost effective circuit construction using minimal hardware and interconnections low energy losses.

CHOSEN-DRAWING: Dwg.3/3

TITLE-TERMS: SYSTOLIC CIRCUIT SIMULATE SYSTEM N SIMILAR INTERNAL
PRODUCT STAGE

PROCESSOR ONE DIMENSION STRUCTURE CONNECT PIPE BUS

DERWENT-CLASS: R27 T01

EPI-CODES: T01-E02; T01-F03B;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1992-060567